Design and Implementation of Passport Consultancy Management System (PCMS)

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Supervised by Md. Zahidul Hasan

Submitted in partial fulfillment of the requirements for the degree of Bachelor of Science in Computer Science and Engineering



DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING SONARGAON UNIVERSITY (SU)

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APPROVAL

The project titled "**Design and Implementation of Passport Consultancy Management System (PCMS)**" submitted by Shaharia Bhuiyan Emon (CSE1901016029), Suraiya Afrin Jhumur (CSE1803015090), Emdadul Haque Milon (CSE1901016121) and MD. Anisur Rahman (CSE1901016086) to the Department of Computer Science and Engineering, Sonargaon University (SU), has been accepted as satisfactory for the partial fulfillment of the requirements for the degree of Bachelor of Science in Computer Science and Engineering and approved as to its style and contents.

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DECLARATION

We, hereby, declare that the work presented in this report is the outcome of the investigation performed by us under the supervision of **Md. Zahidul Hasan, Lecturer,** Department of Computer Science and Engineering, Sonargaon University, Dhaka, Bangladesh. We reaffirm that no part of this project has been or is being submitted elsewhere for the award of any degree or diploma.

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ABSTRACT

Now days the world has come to hand through advanced technology. Keeping this in mind, we thought to build a system that would make the passport-related content one step easier. Our system will help the user make the work easier. It will save the time of the user. They don't have to face any hassles to go to the embassy. The user can complete visa stamping within a few clicks. Some unscrupulous brokers charge more money from the users. But using this system, users can check the correct information. They don't have to pay any extra money. Sometimes more money was taken from the head office and from the agency, the follow up of the software will not be possible, everyone can see the fixed amount from everyone's panel.

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We are also thankful to all our teachers during our whole education, for exposing us to the beauty of learning.

Finally, our deepest gratitude and love to our parents for their support, encouragement, and endless love.

LIST OF ABBREVIATIONS

| 000 | |
|-------|--|
| CSS | Cascading Style Sheets |
| DFD | Data Flow Diagram |
| ERD | Entity Relationship Diagram |
| HTML | Hypertext Markup Language |
| IT | Information Technology |
| JS | Java Script |
| PCMS | Passport Consultancy Management System |
| RDBMS | Relational Database Management System |
| RDM | Relational Data Model |
| SQL | Structured Query Language |
| | |

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CHAPTER 1

INTRODUCTION TO PASSPORT CONSULTANCY MANAGEMENT SYSTEM

1.1 Introduction

By using the Passport Consultancy Management System (PCMS) we can do visa stamping easily. So that the users don't have to face any hassle to go to the embassy. It's restricted for all people to enter the embassy. But using this system users can check easily that has the book been stamped from the embassy to the Head office or not. All the problems of all agencies will be solved through this software. It would be much easier to issue emergency notices to all agencies at once. Previously, the agency could not work properly due to these small problems, and these problems will be their daily suffering, the agency's suffering will be removed instantly by the software.

1.2 Objectives

Our Passport Consultancy Management System's (PCMS) aim is to save time and make the work easier for the user. Every consultancy office must create a list of their passport word files and send it to the headquarters. Some of the main questions after sending the mail to the head office are:

- Have our emails been sent?
- Did I mail the names of two books?
- Is the passport list okay?
- Our system can easily answer the above questions and it will make the work much easier. Anyone can do the work in a short time. There's no need to call anyone to get the job done or check on anything related to passports.

1.3 Motivation

There is a purpose behind every action. Our target was to make passport-related processing easier so the users wouldn't face any hassle. This system will save time. Make the work easier. The user doesn't have to pay more money. They will get the correct information on their own.

CHAPTER 2

SOFTWARE PROCESSES

2.1 Objectives

The objectives of this chapter are to introduce the idea of a software process- a coherent set of activities for software production. The objectives are:

- Understand the concept of a software process and a software process model.
- Understand a number of different software process models and when they might be used.
- Understand in outline, process models for software requirement engineering, software development, testing and evolution.

2.2 Software Process Model

A structured set of activities are required to develop a software system. A software process model is an abstract representation of a software system. Each process model represents a process from a particular perspective so only provide partial information about the process. There are different types of software process models. In our project we follow the Agile Model for software development.

Agile development practices have been widely adopted in a variety of organizations, yet only a few tools are available to help make the practical process of managing agile teams less painful and more successful. HP Agile Manager is a purpose-built SaaS-based agile planning tool that provides a simpler, more innovative way to manage collaborative development. Agile Manager can work for small startups and midsize teams and can scale up for bigger organizations as a cost-effective and flexible tool to apply agile techniques to improve your system development process. This book combines agile software development practices with HP's Agile Manager tool when used as a SaaS product or an on premise solution. It will explain how to master key functionalities of Agile Manager. It teaches you how to build and plan releases, create a product's backlog, and manage dayto-day R&D activity such as addressing user stories and defects and reviewing the team activity with the help of informative dashboards. While this book is not designed to teach agile system development per se, it starts out with a chapter that covers agile system development practices and specifically focuses on the Scrum agile methodology and its related concepts [7].

2.2.1 Agile process model

The meaning of Agile is swift or versatile. "Agile process model" refers to a software development approach based on iterative development. Agile methods break tasks into smaller iterations, or parts do not directly involve long term planning. The project scope and requirements are laid down at the beginning of the development process. Plans

regarding the number of iterations, the duration and the scope of each iteration are clearly defined in advance.

Each iteration is considered as a short time "frame" in the Agile process model, which typically lasts from one to four weeks. The division of the entire project into smaller parts helps to minimize the project risk and to reduce the overall project delivery time requirements. Each iteration involves a team working through a full software development life cycle including planning, requirements analysis, design, coding, and testing before a working product is demonstrated to the client. Agile model is illustrated in Fig 2.1.

Phases of Agile Model:

Following are the phases in the Agile model are as follows:

- ✓ Requirements gathering
- \checkmark Design the requirements
- ✓ Construction/iteration
- ✓ Testing/ Quality assurance
- ✓ Deployment
- ✓ Feedback



Fig 2.1. Agile Model

Requirements gathering:

In this phase, you must define the requirements. You should explain business opportunities and plan the time and effort needed to build the project. Based on this information, you can evaluate technical and economic feasibility.

Design the requirements:

When you have identified the project, work with stakeholders to define requirements. You can use the user flow diagram or the high-level UML diagram to show the work of new features and show how it will apply to your existing system.

Construction/ iteration:

When the team defines the requirements, the work begins. Designers and developers start working on their project, which aims to deploy a working product. The product will undergo various stages of improvement, so it includes simple, minimal functionality.

Testing:

In this phase, the Quality Assurance team examines the product's performance and looks for the bug.

Deployment:

In this phase, the team issues a product for the user's work environment.

Feedback:

After releasing the product, the last step is feedback. In this, the team receives feedback about the product and works through the feedback.

2.2.2 Scrum

SCRUM is an agile development process focused primarily on ways to manage tasks in team-based development conditions.

There are three roles in it, and their responsibilities are:

Scrum Master:

The scrum can set up the master team, arrange the meeting and remove obstacles for the process

Product owner:

The product owner makes the product backlog, prioritizes the delay and is responsible for the distribution of functionality on each repetition.

Scrum Team:

The team manages its work and organizes the work to complete the sprint or cycle.

2.2.3 The Product Backlog

The product backlog contains a list of items that generally describe the requirements of the product or bugs that need to be addressed. High-level backlog items such as themes and features consist of an organized set of requirements, whereas more detailed low-level items such as user stories and defects consist of the actual product backlog items that require addressing, thus completing the themes and features. To begin working on the product backlog and continue managing your release and team life cycle, let's switch back from the configuration area by clicking the gray gear icon (which is where we left off in the previous chapter)

Then navigate to the Product Backlog view using the main navigation bar. The Product Backlog view allows you to manage the high-level requirements through the Themes and Features sections [7].

CHAPTER 3

REQUIREMENTS

3.1 System Requirements

System requirements are the configuration that a system must have in order for a hardware or software application to run smoothly and efficiently. Failure to meet these requirements can result in installation problems or performance problems.

3.1.1 Initial Investigation of Candidate System

The first step in the system development life cycle is the identification of the need. This is a user's request to change, improve or enhance an existing system. As there is likely to be a system of such requests, standard procedures must be established to deal with them. The initial investigation is one way of handling this sort of thing. The objective is to determine whether the request is valid and feasible before a recommendation is reached to do nothing to improve or modify the existing system or build a new one.

There are three key strategies or general approach for eliciting information regarding the user requirement are:

- ✓ Asking
- \checkmark Getting information from the existing information system
- ✓ Prototyping

Requirements are generally split into two types: Functional and Non-functional requirements.

3.1.2 Functional Requirements

The functional requirements for a system describe what the system should do. These requirements depend on the type of system being developed, the expected users of the system, and the general approach taken by the organization when writing requirements. When expressed as user requirements, functional requirements are usually described in an abstract way that can be understood by system users. However, more specific functional system requirements describe the system functions, its inputs and outputs, exceptions, etc., in detail. Functional system requirements vary from general requirements covering what the system should do to very specific requirements reflecting local ways of working or an organization's existing systems [4].

Some examples of functional requirements include:

- \checkmark Specifications of what the system must do
- \checkmark Business rules that must be met
- \checkmark Steps that the system must take in authentication
- \checkmark Details of what must be tracked in the system
- \checkmark The reporting requirements of the system
- \checkmark Specifics relating to legal or regulatory compliance
- \checkmark Outlines the levels of user and their authorization
- \checkmark Details of how transactions must occur
- \checkmark The external interfaces of the system

3.1.3 Non-Functional Requirements

Non-functional requirements, as the name suggests, are requirements that are not directly concerned with the specific services delivered by the system to its users. They may relate to emergent system properties such as reliability, response time, and store occupancy. Alternatively, they may define constraints on the system implementation such as the

capabilities of devices or the data representations used in interfaces with other systems. Non-functional requirements, such as performance, security, or availability, usually specify or constrain characteristics of the system as a whole. Non-functional requirements are often more critical than individual functional requirements. System users can usually find ways to work around a system function that doesn't really meet their needs. However, failing to meet a non-functional requirement can mean that the whole system is unusable. For example, if an aircraft system does not meet its reliability requirements, it will not be certified as safe for operation

If an embedded control system fails to meet its performance requirements, the control functions will not operate correctly [4].

Some examples of functional requirements include:

- \checkmark The time taken for a specific page to load.
- \checkmark The speed within which certain requests must be processed.
- \checkmark The level of availability the system should have.
- ✓ Which functions can be performed at different times, and when maintenance will be carried out.
- \checkmark How many users the system can handle concurrently.



Fig 3.1. Different types of requirements

CHAPTER 4

SYSTEM DESIGN

4.1 Class Diagram

A class diagram describes the static structure of a system. It shows how a system is structured rather than how it behaves. The static structure of a system comprises a number of class diagrams and their dependencies. The main constituents of a class diagram are classes and their relationships: generalization, aggregation, association, and various kinds of dependencies [6].

- Classes
- Attributes
- Operation
- Association
- Aggregation
- Composition



Fig: 4.1 Class Diagram

4.1.1 ERD (Entity Relation Diagram)

An entity relationship diagram (ERD), also known as an entity relationship model, is a graphical representation that depicts relationships among people, objects, places, concepts or events within an information technology (IT) system. An ERD uses data modeling techniques that can help define business processes and serve as the foundation for a relational database.



Fig: 4.2. ERD (Entity Relation Diagram)

Entity relationship diagrams provide a visual starting point for database design that can also be used to help determine information system requirements throughout an organization. After a relational database is rolled out, an ERD can still serve as a reference point, should any debugging or business process re-engineering be needed later [5].

4.1.2 Data Flow Diagram (DFD)

Data flow diagram is a graphical representation of data flow in an information system. It is capable of depicting incoming data flow, outgoing data flow and stored data. The DFD does not mention anything about how data flows through the system [6].





DFD Components DFD can represent Source, destination, storage and flow of data using the following set of components

- Entities Entities are source and destination of information data. Entities are represented by rectangles with their respective names.
- Process Activities and action taken on the data are represented by Circle or Round edged rectangles.
- Data Storage There are two variants of data storage it can either be represented as a rectangle with absence of both smaller sides or as an open-sided rectangle with only one side missing.
- Data Flow Movement of data is shown by pointed arrows. Data movement is shown from the base of the arrow as its source towards the head of the arrow as destination [6].

4.2 Design Tools

The system is expected to serve all the purpose that it has been developed for. We use the following tools to implement this system:

Backend Framework:

- ✓ CodeIgniter 04
- ✓ PHP-7.4.3
- ✓ RDBMS: MySQL
- ✓ Server: XAMPP, Apache

Fronted framework:

- ✓ BOOTSTRAP
- ✓ JAVASCRIPT
- ✓ HTML
- ✓ CSS

4.2.1 CodeIgniter

CodeIgniter is a high performance PHP framework for developing MVC-based web applications. CodeIgniter contains libraries, simple interface and logical structure to access these libraries, plug-ins, helpers and some other resources which solve the complex functions of PHP more easily maintaining a high performance. It simplifies the PHP code and brings out a fully interactive, dynamic website at a much shorter time. It supports PHP version 5.2.6 or newer and MySQL version 4.1 or newer. It makes your web more robust and your code easier to read and maintain. It is a free toolkit, light weight and easier to install.

4.2.2 PHP

The PHP Hypertext Preprocessor (PHP) is a programming language that allows web developers to create dynamic content that interacts with databases. PHP is basically used for developing web based software applications.

4.2.3 RDBMS

A relational database management system (RDBMS) is a collection of programs and capabilities that enable IT teams and others to create, update, administer and otherwise interact with a relational database. RDBMS stores data in the form of tables, with most commercial relational database management systems using Structured Query Language (SQL) to access the database. However, since SQL was invented after the initial development of the relational model, it is not necessary for RDBMS use. The RDBMS is the most popular database system among organizations across the world. It provides a dependable method of storing and retrieving large amounts of data while offering. Combination of system performance and ease of implementation [8].

Relational Data Model (RDM)

The relational model uses a collection of tables to represent both data and the relationships among those data. Tables are logical structures maintained by the database manager. The relational model is a combination of three components, such as

- Structural,
- Integrity and
- ✤ Manipulative parts.

Structural Data

The structural part defines the database as a collection of relations.

Integrity

The database integrity is maintained in the relational model using primary and foreign keys.

Manipulative parts

The relational algebra and relational calculus are the tools used to manipulate data in the database. Thus relational models have a strong mathematical background.

The key features of relational data model are as follows:

- Each row in the table is called tuple.
- Each column in the table is called an attribute.
- The intersection of the row with the column will have data value.
- In relational model rows can be in any order.
- In relational model attributes can be in any order.
- By definition, all rows in a relation are distinct. No two rows can be exactly the same.
- Relations must have a key. Keys can be a set of attributes.
- For each column of a table there is a set of possible values called its domain.
- Domain is the set of valid values for an attribute.
- Degree of the relation is the number of attributes (columns) in the relation.
- Cardinality of the relation is the number of tuples (rows) in the relation.

Relational Algebra:

The relational algebra is a theoretical language with operations that work on one or more relations to define another relation without changing the original relation. Thus, both the operands and the results are relations

Hence the output from one operation can become the input to another operation. This allows expressions to be nested in relational algebra. This property is called closure. Relational algebra is an abstract language, which means that the queries formulated in relational algebra are not intended to be executed on a computer. Relational algebra consists of a group of relational operators that can be used to manipulate relations to obtain a desired result. Knowledge about relational algebra allows us to understand query execution and optimization in relational database management systems.

4.2.4 MySQL

MySQL is the most popular Open Source Relational SQL database management system. MySQL is one of the best RDBMS being used for developing web-based software applications.

4.2.5 XAMPP

XAMPP is a free and open source cross-platform web server solution stack package developed by Apache Friends, consisting mainly of the Apache HTTP Server, MariaDB database, and interpreters for scripts written in the PHP and Perl programming languages. XAMPP stands for Cross-Platform (X), Apache (A), MariaDB (M), PHP (P) and Perl (P). It is a simple, lightweight Apache distribution that makes it extremely easy for developers to create a local web server for testing and deployment purposes. Everything needed to set up a web server – server application (Apache), database (MariaDB), and scripting language (PHP) – is included in an extractable file.

4.2.6 Apache

It is an HTTP cross-platform web server. It is used worldwide for delivering web content. The server application has been made free for installation and used for the community of developers under the aegis of Apache system Foundation. The remote server of Apache delivers the requested files, images, and other documents to the user.

4.2.7 Bootstrap 4 and Material Design

Bootstrap is a free and open-source front-end framework for designing websites and web applications. It contains HTML- and CSS-based design templates for typography, forms, buttons, navigation and other 6 interface components, as well as optional JavaScript extensions. Unlike many web frameworks, it concerns itself with front-end development only.

4.2.8 JavaScript

JavaScript (JS) often abbreviated as JS, is a high-level, interpreted programming language. It is a language which is also characterized as dynamic, weakly typed, prototype-based and multi-paradigm. Alongside HTML and CSS, JavaScript is one of the three core technologies of the World Wide Web. JavaScript enables interactive web pages and thus is an essential part of web applications. The vast majority of websites use it, and all major web browsers have a dedicated JavaScript engine to execute it [1].

4.2.9 Html

Hypertext Markup Language (HTML) is the standard markup language for creating web pages and web applications. With Cascading Style Sheets (CSS) and JavaScript, it forms a triad of cornerstone technologies for the World Wide Web. [4] Web browsers receive

HTML documents from a web server or from local storage and render the documents into multimedia web pages. HTML describes the structure of a web page semantically and originally included cues for the appearance of the document. HTML elements are the building blocks of HTML pages. With HTML constructs, images and other objects such as interactive forms may be embedded into the rendered page. HTML provides a means to create structured documents by denoting structural semantics for text such as headings, paragraphs, lists, links, quotes and other items [3].

4.2.10 CSS

Cascading Style Sheets (CSS) is a style sheet language used for describing the presentation of a document written in a markup language like HTML. CSS is a cornerstone technology of the World Wide Web, alongside HTML and JavaScript. CSS is designed to enable the separation of presentation and content, including layout, colors, and fonts. This separation can improve content accessibility, provide more flexibility and control in the specification of presentation characteristics, enable multiple web pages to share formatting by specifying the relevant CSS in a separate css file, and reduce complexity and repetition in the structural content [3].

CHAPTER 5

SYSTEM IMPLEMENTATIONS

5.1 Public site

A location on the World Wide Web that is accessible by anyone with a Web browser and access to the Internet.

5.1.1 Screenshot of Home Page



5.1.2 Screenshot of Contact Page

| *First Name | Last Name | Passport Consultancy Management Software Wh we concern about your security and you. |
|---------------|-----------|--|
| *Subject | | Address: 568, Green Road, Dhaka |
| *E-mail | | Phone: +88 018-6408-7174 |
| *Your Message | | Email: info@pcms.com |
| | | Fax: +1 502-257-1156 |
| | | |

5.1.3 Screenshot of Login Page

| PCMS |
|---|
| Email* |
| Password* |
| Sign In |
| Don't have an account? Back to website |
| |

5.1.4 Screenshot of Register Page

| Consultancy Name* | | |
|---|-------------------|-----|
| Representative* | | |
| Email* | | |
| Contact Number* | | |
| Address* | | |
| Password* | Confirm Password* | |
| | Sign Up | - |
| Already have an account? Back to website | Log | şin |

5.2 Head office Panel

Head office is a private section no user can enter. The office that maintains the system can get access. The head office will control the user (company) offices.

| -∳- PCMS = | × | | (r |
|---|---|--|---|
| Admin | Dashboard Welcome to PCMS | | A > Dashboard |
| | | | |
| Passport Type + | Total Consultancy | Total Passport Received | Notifications New |
| All Consultancy | without head office | From all the consultancies | Sajib Adhikary |
| Received Passport List Return Passport | 2 Total Passport Returned | 205,000.000/- Income Status | Subject: Testing Feature Hello Admin. Passport Consultancy Management Software Where we are concern about your security and you. |
| | Total Reward Given ↓ 6,100.000/- to all consultancies | All Notices 5 for all and specific consultancy | Al-humayra Last Name 9th December, 2022 Subject: family passport my 3 passports can't be stamping. you contact the embassy and find the solution Activate Windows |
| | | | Go to Settings to activate Windows. |

5.2.1 Screenshot of Head Office Panel Dashboard

5.2.2 Screenshot of Add Passport Type

| -∳- PCMS ≡ | × | → |
|---|--|------------|
| Admin | Send Passport Fill-up the form to add a passport type | |
| 企 Dashboard | Passport Type: * Worker | |
| Passport Type | Price: * 40000 | |
| Add Passport Type Modify Passport Type | Remarks: * n/a | |
| All Consultancy | Cover | Add |
| Received Passport List | | |
| Return Passport | | |
| ✓ Reward + | Activate Windows Go to Settings to activate | e Windows. |
| 🗂 Notice + | | |

5.2.3 Screenshot of Modify Passport

| -∳- PCMS ≡ × | : | | | | | |
|---|--------|---------------|---------------|-----------|--|-------------|
| Admin | Passpo | ort Type List | | | | ¥ |
| ☆ Dashboard | # | Date | Passport Type | Price | Remarks | Action |
| Passport Type _ | 1 | 2022-12-08 | Family | 39000.000 | n/a | Edit Delete |
| Add Passport Type Modify Passport Type | 2 | 2022-12-08 | Business | 39000.000 | n/a | Edit Delete |
| All Consultancy | 3 | 2022-12-08 | Student | 5000.000 | n/a | Edit Delete |
| Received Passport List | 4 | 2022-12-08 | Re-issue | 2000.000 | n/a | Edit Delete |
| Reward | 5 | 2022-12-08 | Re-submit | 39000.000 | n/a | Edit Delete |
| Notice | 6 | 2022-12-08 | Cancel | 0.000 | n/a | Edit Delete |
| | 7 | 2022-12-08 | Schoolarship | 5000.000 | n/a Act | ivate V |
| | 8 | 2022-12-09 | Worker | 25000.000 | If you stamping the worker book ,please to get my visa | Edit Delete |

5.2.4 Screenshot of Consultancy

Users who register will have their own details Store.

| -∳- PCMS ≡ | X | | | | | | ÷ |
|------------------------|-------|------------------------------|----------------|-------------|-------------------|-----------------|---------------------|
| Admin | Consu | ltancy List | | | | | ŕ |
| 奋 Dashboard | # | Consultancy | Representative | Phone | Email | Address | Joined At |
| Passport Type + | 1 | Emon Consultancy | Shahariar Emon | 01715562612 | emonpk@gmail.com | Khilgaon, Dhaka | 21st November, 2022 |
| All Consultancy | 2 | Fly Air Passport Consultancy | Juwel Sarkar | 01222222222 | juwel@pcms.com | Shamoly, Dhaka | 8th December, 2022 |
| Received Passport List | 3 | Al-humayra | rakib | 01111111111 | alhu@gmail.com | Baridhara | 9th December, 2022 |
| Return Passport | 4 | Abir | Labib | 01987865432 | abir@gmail.com | Dhaka | 11th December, 2022 |
| ↓ Reward + | 5 | bhuiyan | bhuiyan | 01864087179 | bhuiyan@gmail.com | Baridhara | 27th December, 2022 |
| Notice + | б | Sk Global | Sohel | 01864087174 | sk@gmail.com | Kakrail | 4th January, 2023 |
| | | | | | | Activ | ate Windows |

5.2.5 Screenshot of Received List

Head office can check all the passports given by the user and individual user's submitted passports.

| -\@- PCMS = | × | | | | | | | |
|---|---|---|---|---|--|---|--|---|
| Admin | ſ | Received Passports b | y Consultancy | | | | | |
| 命 Dashboard | | Select a Consultancy | | | | * | | Search |
| Passport Type + | | | | | | | | |
| All Consultancy | | Received Passports All received passport cons | ultancy wise | | | | | ş |
| D Received Passport List | | | | | | | | |
| Return Passport | | Serial Number | Received At | Consultancy | Passport Number | Passport Name | Туре | Cost |
| | | Serial Number | Received At 2nd November, 2022 | Consultancy (Emen Consultancy) | Passport Number | Passport Name Mazaharul Emon | Type Student | Cost 5,000.000/- |
| Return Passport Reward Notice | | Serial Number 03 04 | Received At (2nd November, 2022) Sth December, 2022 | Consultancy (mon Consultancy) (mon Consultancy) | Passport Number | Passport Name Mazaharul Emon Jhumur Akhter | Type Student Family | Cost 5,000.000/- 39,000.000/- |
| | | Serial Number 03 04 234 | Received At 2nd November, 2022 Rth December, 2022 Rth December, 2022 | Consultancy Erron Consultancy (Erron Consultancy) (Ply Air Paapert Consultancy) | Passport Number IS9724JHD 23421414 SDWEW2412 | Passport Name Mazaharul Emon Jhumur Akhter Shikhar Dhawan | Type Student Family Family | Cost 5,000.000/- 39,000.000/- 39,000.000/- |
| Return Passport Reward Notice | | Serial Number 03 04 234 32 | Received At (2nd November, 2022) (Bth December, 2022) (Bth December, 2022) (Bth December, 2022) | Consultancy From Consultancy Conson Consultancy (Try Air Pasaport Consultancy) (Ply Air Pasaport Consultancy) | Passport Number IIS9724JHD 23421414 SDWEW2412 BQ242DSD2 | Passport Name Mazaharul Emon Jhumur Akhter Shikhar Dhawan Virat Kohli | Type Student Family Family Business | Cost 5,000.000/- 39,000.000/- 39,000.000/- 39,000.000/- |
| Return Passport Reward Notice | | Serial Number 03 04 234 32 01 | Received At (2nd November, 2022) (Bth December, 2022) (Bth December, 2022) (Bth December, 2022) (Bth December, 2022) | Consultancy | Passport Number IIS9724JHD 23421414 SDWEW2412 BQ242DSD2 BQ0182789 | Passport Name Mazaharul Emon Jhumur Akhter Shikhar Dhawan Virat Kohli Ajad | Type Student Family Business ActBusinessWi Go to Stettings | Cost 5,000.000/- 39,000.000/- 39,000.000/- 39,000.000/- nd 39,090.000/- to activate Windows |

| -ф-∣рсмѕ | ≡ | x | | | | | | |
|------------------------------|-------------|-------------------------------|--------------------|-------------|-----------------|---------------|--------------|-------------------|
| Admin | | Received Passports by | Consultancy | | | | | |
| 窗 Dashboard | | Al-humayra | | | | * | | Search |
| Passport Type | + | | | | | | | |
| All Consultancy | | Received Passports | | | | | | ş |
| Received Passport List | t | All received passport consult | ancy wise | | | | | |
| Return Passport | | Serial Number | Received At | Consultancy | Passport Number | Passport Name | Туре | Cost |
| 📌 Reward | + | 01 | 9th December, 2022 | Al-humayra | BQ0182789 | Ajad | Business | 39,000.000/- |
| 🗂 Notice | + | 02 | 9th December, 2022 | Al-humayra | BW0192019 | jamal bathan | Family | 39,000.000/- |
| | | 03 | 9th December, 2022 | Al-humayra | BY1234432 | jhumur | Student | 5,000.000/- |
| | | Total | | | | | | |
| | | | | | | | Activate Win | dows |
| | | | | | | | | activate Windows. |
| cms.robin.adovasoft.com/admi | in/received | d/passport/list | | | | | | |

5.2.6 Screenshot of Return Passport

The passports of those whose passports do not get visa stamping are returned from the head office, And the highest passport donor company is rewarded.

| -╈ <mark>-</mark> PCMS = | x | | | | | | | |
|--------------------------|--|-------------------|-------------|-----------------|---------------|--------|--------------|--------|
| Admin | Return Passport All received passport cons | ultancy wise | | | | | | ŀ |
| Dashboard | Serial Number | Received At | Consultancy | Passport Number | Passport Name | Туре | Cost | Action |
| Passport Type | 01 | 4th January, 2023 | Sk Global | BQ0182789 | Ajad | Family | 39,000.000/- | Return |
| Received Passport List | | | | | | | | |
| Return Passport | | | | | | | | |
| | | | | | | | | |

| -∳- pcms = | x | | | | | → |
|------------------------|---------|---------------------------------|------------------------------|--------------|------------------|---|
| Admin | All rev | ward I sent to consultancies | | | ş | |
| ☆ Dashboard | # | Date | For | Amount | Remarks | |
| Passport Type + | | | | | | |
| All Consultancy | 1 | 8th December, 2022 | Fly Air Passport Consultancy | 500.000/- | Good performance | |
| Decoived Passport List | 2 | 9th December, 2022 | Emon Consultancy | 5,000.000/- | hjgfhgj | |
| | 3 | 9th December, 2022 | Al-humayra | 600.000/- | n/a | |
| Reward | 4 | 27th December, 2022 | bhuiyan | 20,000.000/- | n/a | |
| | 5 | 4th January, 2023 | Sk Global | 10,000.000/- | n/a | |
| | | | Total | 36,100.000/- | Activate Windows | |

5.3 Company Panel

Company panel is all system users. Users' Passport entry can be modified and if they have any question they can tell it through a message. Their reward message can also be known through the system.

| -∲- PCMS = | X | | |
|--|------------------------------|-----------------------------------|--|
| Sohel + | Dashboard Welcome to PCMS | | 🖷 > Dashboard |
| 🔒 Dashboard | | | |
| 🕒 Passport Type 🛛 + | Total Passport Types | Total Passport Sent | Notifications New |
| ✤ Send Passport | to send passport | To head office | 8th December, 2022 |
| Sent Passports List Modify Sent Passport | 0 Total Passport Returned | 39,000.000/- Total Cost | Subject: Closing student Service Due to some reason we are closing the service of student. So please do not send us student type passports. Else we will returned it to again. |
| ≡ Return Passport List | Total Reward Received | All Notices | 9th December, 2022 Subject: Atteniton Every consultancy representative must be do thery work . And have any |
| nd Rewards | √ 10,000.000/- | ب کو | question to contact Head office Thank You |
| Message | from head office | from head office | 11th December, 2022 Activate Windows Subject: Govt. audit Go to Settings to activate Windows. |

5.3.1 Screenshot of Dashboard

| ♦ PCMS = | x | →l |
|------------------------|---|-------------------------|
| Sohel - | Send Passport Fill-up the form to send a passport to head office | |
| 🙆 Dashboard | Passport Type: * Select a type | ~ |
| Passport Type + | Serial Number: " | |
| ♥ Send Passport | Passport's Number: * | |
| 🕒 Sent Passports List | Passport Name: * | |
| Modify Sent Passport | Phone: * | |
| ≡ Return Passport List | Cancel | Send |
| <u>ull</u> Rewards | | |
| ₩ Message | Activate Wind Go to Settions to a | OWS activate Windows |

5.3.2 Screenshot of Send Passport and All Passport List

| A bashbard Passport Type + Send Passport List Modify Sent Passport Revards Message | ♦ PCMS = | X | | | | | | | | |
|--|---|---|--|-------------------|-----------------|---------------|-------------|---------------|----------------------------|--------------|
| □ bashbaard ■ Passport Type ▶ Send Passport ■ Send Passport Lidat ● Modify Sent Passport ■ Rewards ■ Rewards ● Message | Sohel + | ſ | All Passport Passport entries type wise | | | | | | | ş |
| Image: Passport Type + 01 4th January. 2023 BQ0182789 Ajad 01871263712 11572570 Family 39,000,00/- Image: Passport List 02 Sth January. 2023 BQ0182780 Rayhan Hasan 01871263712 11572570 Family 39,000,00/- Image: Passport List 02 Sth January. 2023 BQ0182780 Rayhan Hasan 01871263712 115725712 Student 5,000,00/- Image: Passport List Image: Passport Lis | û Dashboard | | Serial Number | Date | Passport Number | Passport Name | Phone | Sent At | Туре | Cost |
| ▶ Send Passport 02 Sth January. 2023 BQ0182780 Rayhan Hasan 01871263712 C2285900 Student 5,000,000/- ● Modify Sent Passport List Image: Comparison of C | Passport Type + | | 01 | 4th January, 2023 | BQ0182789 | Ajad | 01871263712 | 21:57:25 pm | Family | 39,000.000/- |
| A Saft Passport Modify Sent Passport Return Passport List Rewards Message Activate Windows Go to Settings to activate Windows | Send Passport | | 02 | 5th January, 2023 | BQ0182780 | Rayhan Hasan | 01871263712 | 21:26:16 pm | Student | 5,000.000/- |
| Return Passport List ▲ Rewards A Message Activate Windows Go to Settings to activate Windows | Sent Passports List Modify Sent Passport | | | | То | tal | | | | 44,000.000/- |
| ▲ Rewards ✓ Message Activate Windows Go to Settings to activate Windows | Return Passport List | | | | | | | | | |
| Message Activate Windows Go to Settings to activate Windows Go Go | <u>I</u> Rewards | | | | | | | | | |
| Activate Windows Go to Settings to activate Windows | Q Message | | | | | | | | | |
| | | | | | | | | Acti Go ta | vate Wind Settings to a | |

5.3.3 Screenshot of Modify Send Passport

After entering in the passport system, if someone has typed wrong information, it is easy to edit from the company panel.

| -∳- PCMS | | × | | | | | | | |
|------------------------------|------------|---|-------------------|-----------------|---------------|---------|--------------|------------------------------------|--------------------------|
| Sohel - | | All Passport Passport entries type w | ise | | | | | | ş |
| <u>D</u> ashboard | | Serial Number | Date | Passport Number | Passport Name | Туре | Cost | Phone Number | Action |
| Passport Type Send Passport | + | 01 | 4th January, 2023 | BQ0182789 | Ajad | Family | 39,000.000/- | 01871263712 | 2 = |
| Sent Passports List | | 02 | 5th January, 2023 | BQ0182780 | Rayhan Hasan | Student | 5,000.000/- | 01871263712 | 6 |
| Modify Sent Passport | | | | | | | | | |
| Return Passport List | | | | | | | | | |
| Rewards | | | | | | | | | |
| Message | | | | | | | | | |
| | | | | | | | | Activate Wine Go to Settings to | dows activate Windows |
| lhost:4040/company/sent/pa | issport/ed | litable | | | | | | | |

5.3.4 Screenshot of Return Passport

| ∲ PCMS ≡ | | | | | | | | | |
|--------------------------------------|-----------|--|-------------------|-----------------|---------------|-------------|-------------|-----------|----------------|
| Sohel - | 1 | All Passport Passport entries type wise | | | | | | | ۶ |
| ඬ Dashboard | | Serial Number | Date | Passport Number | Passport Name | Phone | Returned At | Туре | Cost |
| Passport Type + | | 02 | 5th January, 2023 | BQ0182780 | Rayhan Hasan | 01871263712 | 21:26:16 pm | Student | 5,000.000/- |
| Send Passport | | | | 1 | Fotal | | | | 5,000.000/- |
| Sent Passports List | | | | | | | | | |
| Modify Sent Passport | | | | | | | | | |
| | | | | | | | | | |
| <u>M</u> Rewards | | | | | | | | | |
| ₩ Message | | | | | | | | | |
| | | | | | | | | | |
| | | | | | | | Activ | ate Windo | WS |
| | | | | | | | | | arace mindows. |
| localhost:4040/company/returned/pass | port/list | | | | | | | | |

5.3.5 Screenshot of Reward

| Afrina messaged you | × 🔮 Received Rewards | PCMS 🗙 📴 Google Translate | × + | | ~ - 0 × |
|---|-------------------------------------|--|---------------------------|-----------------------------------|--|
| \leftrightarrow \rightarrow C \triangle (i) localhost | :4040/company/reward | | | | ९ 🖻 🖈 🍬 🗯 🗖 🌍 : |
| 🍽 Gmail 💽 YouTube 繴 Maps | 💢 URL Expander — U | 🖪 Bootstrap · The mo 🛴 Can I use Suppo | rt 🔤 C# Online Compiler 🔇 | GHC 💩 Visa Services Platfo 🎯 Poli | ce Clearance - L » |
| -∲- PCMS = | x | | | | |
| Sohel - | All reward reward sent to consul | tancies | | | ŕ |
| ☆ Dashboard | # | Date | For | Amount | Remarks |
| Passport Type + | 1 | 4th January, 2023 | Sk Global | 10,000.000/- | n/a |
| ➢ Send Passport | | | | 10 000 0007 | |
| 🕒 Sent Passports List | | | Iotai | 10,000.000/- | |
| Modify Sent Passport | | | | | |
| ≡ Return Passport List | | | | | |
| d Rewards | | | | | |
| प्रि Message | | | | Act Go t | ivate Windows o Settings to activate Windows. |
| localhost:4040/company/reward | | | | | |
| Search the web and Wind | | 🗩 🔁 📃 谷 🔍 | 4 🕂 🖾 🖛 🛚 | N 🦛 | ∧ 🗵 🦟 🛡 1/5/2023 |

5.3.6 Screenshot of Message

| -∳ PCMS ≡ | x | →I |
|--------------------------------|--|-----|
| Sohel - | Send Message Fill-up the form to send a message to head office | ٦ |
| û Dashboard | Sk Global | |
| 🖻 Passport Type 🕂 | *Subject | |
| ➢ Send Passport | sk@gmail.com | |
| 🕒 Sent Passports List | *Your Message | |
| Modify Sent Passport | | |
| ≡ Return Passport List | | end |
| <u>aill</u> Rewards | | |
| ₩ Message | | |
| | | |
| | Activate Windows Go to Settings to activate Wind | |
| localhost:4040/company/message | | |

CHAPTER 6

CONCLUSION AND FUTURE WORKS

6.1 Conclusion

In this project, we have designed and implemented a system product that will make passport-related content one step easier. Visa stamping will be way easier for the users. They don't have to face any kind of hassle to go to the passport office. The head office can't take more money from the agency. It'll save time and money.

6.2 Future Works

Although we can add and delete a few things in this system, it is not fully customized. So, we are working to improve the system for customized use.

In the future we will add the following features:

- \checkmark We will make this system more secure and provide a more user-friendly interface.
- ✓ We will send important documents and all notices through email and mobile SMS.
- \checkmark Payments through an Online banking system will be introduced.
- \checkmark All consultancy reward money will go to their bank account through the system.

REFERENCES

- [1] Haverbeke, M. Eloquent, "JavaScrip A Modern Introduction to Programming", (2nd edition), (2014), No Starch Press, pp. 9-12.
- [2] Kromann, F. "Beginning PHP and MySQL: From Novice to Professional" (5th edition), (2018), Apress, pp. 105-120.
- [3] Fielding, J."Beginning Responsive Web Design with Html5 and Css3", (2014), Apress, pp. 75-93.
- [4] Sommerville, I. "System Engineering", (10th edition),(2015) ,Pearson, pp.105-110.
- [5] Al-Masree, H.K. "Extracting Entity Relationship Diagram (ERD) From Relational Database Schema", International Journal of Database Theory and Application, vol. 8, no 3, (2015), Available at: https://doi.org/10.14257/ijdta.2015.8.3.02
- [6] Juristo, N. and Moreno, A. "Lecture Notes on Empirical System Engineering (System Engineering and Knowledge Engineering)", World Scientific Publishing Company, (1st edition), (2003), pp. 78-112.
- [7] Tal, L,"Agile System Development with HP Agile Manager", (1st edition), (2015), Apress, pp. 1-53.
- [8] Sumathi and Esakkirajan, "Fundamentals of Relational Database Management Systems", (Studies in Computational Intelligence, 47). (2007th edition), (2007) Springer, pp. 120-134.